Remediation

In-situ Remediation - Whitstable

Ecologia Environmental Solutions Ltd were initially appointed by Consultants 2020 to carry out a site investigation and human health and groundwater risk assessments at the Horsebridge Development, Whitstable. This followed the discovery of historical contamination in the soil and groundwater. The investigative work revealed that the majority of the contamination was restricted to the coarse gravel present at approximately 2.5-2.9 m below ground level.

Ecologia were subsequently appointed to design a remedial strategy for the site. A detailed site assessment was undertaken that identified a number of technical and logistical problems, including the following;

- The hydrocarbon contamination was present in both the groundwater dissolved phase and in a colloidal sediment fraction.
- Timescale pressures on the developer to complete site development.
- Small footprint of the site and location next to a road
- Proximity to the seafront, with resultant saline intrusion into groundwater.
- The proposed system must be able to produce sufficient drawdown at the site boundary in order to ensure hydraulic containment of the contaminant plume.

Ecologia designed and built an in-situ remediation system which was constructed inside a purpose built basement under the new development. This has allowed the development of a key area of Whitstable sea front to progress unhindered by the ongoing remedial operations. The treatment system was designed to achieve a remedial groundwater target of 6 mg/l, derived by a quantitative risk assessment which was agreed with the Environment Agency.

The development continued during the remediation works

The remediation equipment was located in a cellar under the new development

The treatment system incorporated the following components;

- Extraction of hydrocarbon contaminated groundwater by an induced high vacuum.
- Vapour extraction of volatile hydrocarbons.
- Separation of settleable and buoyant contaminant from groundwater.
- Treatment of the dissolved hydrocarbons in the contaminated groundwater through a sand and activated carbon filter.
- Discharge of treated groundwater to foul sewer (in compliance with water company requirements).
- Removal of hydrocarbon vapours from off-gases prior to discharge to atmosphere.

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